



SEP 0 3 2002 TECH CENTER 1600/2900

COPY OF PAPERS ORIGINALLY FILED

SEQUENCE LISTING

<110> Bannon, et al.

<120> Methods and Reagents for Decreasing Clinical Reactions to Allergy

<130> 2002834-0043

<140> 09/141,220

<141> 1998-08-27

<160> 81

<170> PatentIn Ver. 2.1

<210> 1

<211> 2032

<212> DNA

<213> Arachis hypogaea

<400> 1

aataatcata tatattcatc aatcatctat ataagtagta gcaggagcaa tgagagggag 60 ggtttctcca ctgatgctgt tgctagggat ccttgtcctg gcttcagttt ctgcaacgca 120 tgccaagtca tcaccttacc agaagaaaac agagaacccc tgcgcccaga ggtgcctcca 180 gagttgtcaa caggaaccgg atgacttgaa gcaaaaggca tgcgagtctc gctgcaccaa 240 gctcqaqtat qatcctcqtt gtgtctatga tcctcgagga cacactggca ccaccaacca 300 acgttcccct ccaggggagc ggacacgtgg ccgccaaccc ggagactacg atgatgaccg 360 ccgtcaaccc cgaagagagg aaggaggccg atggggacca gctggaccga gggagcgtga 420 aagagaagaa gactggagac aaccaagaga agattggagg cgaccaagtc atcagcagcc 480 acggaaaata aggcccgaag gaagagaagg agaacaagag tggggaacac caggtagcca 540 tgtgagggaa gaaacatctc ggaacaaccc tttctacttc ccgtcaaggc ggtttagcac 600 ccgctacggg aaccaaaacg gtaggatccg ggtcctgcag aggtttgacc aaaggtcaag 660 gcagtttcag aatctccaga atcaccgtat tgtgcagatc gaggccaaac ctaacactct 720 tgttcttccc aagcacgctg atgctgataa catccttgtt atccagcaag ggcaagccac 780 cgtgaccgta gcaaatggca ataacagaaa gagctttaat cttgacgagg gccatgcact 840 cagaatccca tccggtttca tttcctacat cttgaaccgc catgacaacc agaacctcag 900 agtagetaaa ateteeatge eegttaacae acceggeeag tttgaggatt tetteeegge 960 gagcagccga gaccaatcat cctacttgca gggcttcagc aggaatacgt tggaggccgc 1020 cttcaatgcg gaattcaatg agatacggag ggtgctgtta gaagagaatg caggaggtga 1080 gcaaqaqqaq aqagggcaga ggcgatggag tactcggagt agtgagaaca atgaaggagt 1140 gatagtcaaa gtgtcaaagg agcacgttga agaacttact aagcacgcta aatccgtctc 1200 aaagaaaggc tccgaagaag agggagatat caccaaccca atcaacttga gagaaggcga 1260 gcccgatctt tctaacaact ttgggaagtt atttgaggtg aagccagaca agaagaaccc 1320 ccaqcttcaq qacctqqaca tqatqctcac ctgtgtagag atcaaagaag gagctttgat 1380 gctcccacac ttcaactcaa aggccatggt tatcgtcgtc gtcaacaaag gaactggaaa 1440 ccttgaactc gtggctgtaa gaaaagagca acaacagagg ggacggcggg aagaagagga 1500 ggacgaagac gaagaagagg agggaagtaa cagagaggtg cgtaggtaca cagcgaggtt 1560 gaaggaaggcgatgtgttcatcatgccagcagctcatccagtagccatcaacgcttcctc1620cgaactccatctgcttggcttcggtatcaacgctgaaaacaaccacagaatcttccttgc1680aggtgataaggacaatgtgatagaccagatagagaagcaagcgaaggatttagcattccc1740tgggtcgggtgaacaagttgagaagctcatcaaaaaccagaaggaatctcactttgtgag1800tgctcgtcctcaatctcaatctcaatctccgtcgtctcctgagaaagagtctcctgagaa1860agaggatcaagaggaggaaaaccaaggagggaagggtccactcctttcaattttgaaggc1920ttttaactgagaatgaggcaacttgttatgtatcgataataagatcacgcttttgtact1980ctactatccaaaaacttatcaataaataaaaacgtttgtgcgttgtttctcc2032

<210> 2

<211> 626

<212> PRT

<213> Arachis hypogaea

<400> 2

Met Arg Gly Arg Val Ser Pro Leu Met Leu Leu Gly Ile Leu Val
1 5 10 15

Leu Ala Ser Val Ser Ala Thr His Ala Lys Ser Ser Pro Tyr Gln Lys
20 25 30

Lys Thr Glu Asn Pro Cys Ala Gln Arg Cys Leu Gln Ser Cys Gln Gln
35 40 45

Glu Pro Asp Asp Leu Lys Gln Lys Ala Cys Glu Ser Arg Cys Thr Lys
50 55 60

Leu Glu Tyr Asp Pro Arg Cys Val Tyr Asp Pro Arg Gly His Thr Gly
65 70 75 80

Thr Thr Asn Gln Arg Ser Pro Pro Gly Glu Arg Thr Arg Gly Arg Gln
85 90 95

Pro Gly Asp Tyr Asp Asp Asp Arg Gln Pro Arg Arg Glu Glu Gly
100 105 110

Gly Arg Trp Gly Pro Ala Gly Pro Arg Glu Arg Glu Arg Glu Glu Asp 115 120 125

Trp Arg Gln Pro Arg Glu Asp Trp Arg Arg Pro Ser His Gln Gln Pro
130 135 140

Arg Lys Ile Arg Pro Glu Gly Arg Glu Gly Glu Gln Glu Trp Gly Thr 145 150 155 160

Pro Gly Ser His Val Arg Glu Glu Thr Ser Arg Asn Asn Pro Phe Tyr 165 170 175

Phe	Pro	Ser	Arg 180	Arg	Phe	Ser	Thr	Arg 185	Tyr	Gly	Asn	Gln	Asn 190	Gly	Arg
Ile	Arg	Val 195	Leu	Gln	Arg	Phe	Asp 200	Gln	Arg	Ser	Arg	Gln 205	Phe	Gln	Asn
Leu	Gln 210	Asn	His	Arg	Ile	Val 215	Gln	Ile	Glu	Ala	Lys 220	Pro	Asn	Thr	Leu
Val 225	Leu	Pro	Lys	His	Ala 230	Asp	Ala	Asp	Asn	Ile 235	Leu	Val	Ile	Gln	Gln 240
Gly	Gln	Ala	Thr	Val 245	Thr	Val	Ala	Asn	Gly 250	Asn	Asn	Arg	Lys	Ser 255	Phe
Asn	Leu °	Asp	Glu 260	Gly	His	Ala	Leu	Arg 265	Ile	Pro	Ser	Gly	Phe 270	Ile	Ser
Tyr	Ile	Leu 275	Asn	Arg	His	Asp	Asn 280	Gln	Asn	Leu	Arg	Val 285	Ala	Lys	Ile
Ser	Met 290	Pro	Val	Asn	Thr	Pro 295	Gl.y	Gln	Phe	Glu	Asp 300	Phe	Phe	Pro	Ala
Ser 305	Ser	Arg	Asp	Gln	Ser 310	Ser	Tyr	Leu	Gln	Gly 315	Phe	Ser	Arg	Asn	Thr 320
Leu	Glu	Ala	Ala	Phe 325	Asn	Ala	Glu	Phe	Asn 330	Glu	Ile	Arg	Arg	Val 335	Leu
Leu	Glu	Glu	Asn 340	Ala	Gly	Gly	Glu	Gln 345	Glu	Glu	Arg	Gly	Gln 350	Arg	Arg
Trp	Ser	Thr 355	Arg	Ser	Ser	Glu	Asn 360	Asn	Glu	Gly	Val	Ile 365	Val	Lys	Val
Ser	Lys 370	Glu	His	Val	Glu	Glu 375	Leu	Thr	Lys	His	Ala 380	Lys	Ser	Val	Ser
Lys 385	Lys	Gly	Ser	Glu	Glu 390	Glu	Gly	Asp	Ile	Thr 395	Asn	Pro	Ile	Asn	Leu 400
Arg	Glu	Gly	Glu	Pro 405	Asp	Leu	Ser	Asn	Asn 410	Phe	Gly	Lys	Leu	Phe 415	Glu
Val	Lys	Pro	Asp	Lys	Lys	Asn	Pro	Gln	Leu	Gln	Asp	Leu	Asp	Met	Met

Leu Thr Cys Val Glu Ile Lys Glu Gly Ala Leu Met Leu Pro His Phe 435 440 445

Asn Ser Lys Ala Met Val Ile Val Val Val Asn Lys Gly Thr Gly Asn 450 455 460

Leu Glu Leu Val Ala Val Arg Lys Glu Gln Gln Gln Arg Gly Arg Arg 465 470 475 480

Glu Glu Glu Glu Asp Glu Asp Glu Glu Glu Glu Gly Ser Asn Arg Glu
485 490 495

Val Arg Arg Tyr Thr Ala Arg Leu Lys Glu Gly Asp Val Phe Ile Met 500 505 510

Pro Ala Ala His Pro Val Ala Ile Asn Ala Ser Ser Glu Leu His Leu 515 520 525

Leu Gly Phe Gly Ile Asn Ala Glu Asn Asn His Arg Ile Phe Leu Ala 530 540

Gly Asp Lys Asp Asn Val Ile Asp Gln Ile Glu Lys Gln Ala Lys Asp 545 550 555 560

Leu Ala Phe Pro Gly Ser Gly Glu Gln Val Glu Lys Leu Ile Lys Asn 565 570 575

Gln Lys Glu Ser His Phe Val Ser Ala Arg Pro Gln Ser Gln Ser Gln 580 585 590

Ser Pro Ser Ser Pro Glu Lys Glu Ser Pro Glu Lys Glu Asp Gln Glu
595 600 605

Glu Glu Asn Gln Gly Gly Lys Gly Pro Leu Leu Ser Ile Leu Lys Ala 610 615 620

Phe Asn 625

<210> 3

<211> 474

<212> DNA

<213> Arachis hypogaea

<400> 3

ctcaccatac tagtagecet egecetttte etectegetg eccaegeate tgegaggeag 60

cagtgggaac tccaaggaga cagaagatg cagagccagc tcgagaggg gaacctgagg 120 ccctgcgagc aacatctcat gcagaagatc caacgtgacg aggattcata tgaacgggac 180 ccgtacagcc ctagtcaga tccgtacagc cctagtccat atgatcggag aggcgctgga 240 tcctctcagc accaaggag gtgttgcaat gagctgaacg agtttgagaa caaccaaagg 300 tgcatgtgc aggcattgca acagatcatg gagaaccaga gcgataggtt gcaggggagg 360 caacaggagc aacagttcaa gagggagctc aggaacttgc ctcaacagtg cggccttagg 420 gcaccacagc gttgcgactt ggacgtcgaa agtggcggca gagacagata ctaa 474

<210> 4

<211> 157

<212> PRT

<213> Arachis hypogaea

<400> 4

Leu Thr Ile Leu Val Ala Leu Ala Leu Phe Leu Leu Ala Ala His Ala 1 5 10 15

Ser Ala Arg Gln Gln Trp Glu Leu Gln Gly Asp Arg Arg Cys Gln Ser 20 25 30

Gln Leu Glu Arg Ala Asn Leu Arg Pro Cys Glu Gln His Leu Met Gln
35 40 45

Lys Ile Gln Arg Asp Glu Asp Ser Tyr Glu Arg Asp Pro Tyr Ser Pro 50 55 60

Ser Gln Asp Pro Tyr Ser Pro Ser Pro Tyr Asp Arg Gly Ala Gly
65 70 75 80

Ser Ser Gln His Gln Glu Arg Cys Cys Asn Glu Leu Asn Glu Phe Glu 85 90 95

Asn Asn Gln Arg Cys Met Cys Glu Ala Leu Gln Gln Ile Met Glu Asn 100 105 110

Gln Ser Asp Arg Leu Gln Gly Arg Gln Gln Gln Gln Gln Phe Lys Arg 115 120 125

Glu Leu Arg Asn Leu Pro Gln Gln Cys Gly Leu Arg Ala Pro Gln Arg 130 135 140

Cys Asp Leu Asp Val Glu Ser Gly Gly Arg Asp Arg Tyr 145 150 155

<210> 5 <211> 1524

<212> DNA

<213> Arachis hypogaea

```
<400> 5
```

cggcagcaac cggaggagaa cgcgtgccag ttccagcgcc tcaatgcgca gagacctgac 60 aatcgcattg aatcagaggg cggttacatt gagacttgga accccaacaa ccaggagttc 120 gaatgegeeg gegtegeeet etetegetta gteeteegee geaacgeeet tegtaggeet 180 ttctactcca atgctcccca ggagatcttc atccagcaag gaaggggata ctttgggttg 240 atattccctg gttgtcctag acactatgaa gagcctcaca cacaaggtcg tcgatctcag 300 teccaaagae caccaagaeg tetecaagga gaagaecaaa gecaacagea aegagatagt 360 caccagaagg tgcaccgttt cgatgagggt gatctcattg cagttcccac cggtgttgct 420 ttctggctct acaacgacca cgacactgat gttgttgctg tttctcttac tgacaccaac 480 aacaacgaca accagettga teagtteece aggagattea atttggetgg gaacaeggag 540 caagagttct taaggtacca gcaacaaagc agacaaagca gacgaagaag cttaccatat 600 agcccataca gcccgcaaag tcagcctaga caagaagagc gtgaatttag ccctcgagga 660 cagcacagcc gcagagaacg agcaggacaa gaagaagaaa acgaaggtgg aaacatcttc 720 ageggettea egeeggagtt eetggaacaa geetteeagg ttgaegaeag acagatagtg 780 caaaacctaa gaggcgagac cgagagtgaa gaagagggag ccattgtgac agtgagggga 840 ggcctcagaa tcttgagccc agatagaaag agacgtgccg acgaagaaga ggaatacgat 900 gaagatgaat atgaatacga tgaagaggat agaaggcgtg gcaggggaag cagaggcagg 960 gggaatggta ttgaagagac gatctgcacc gcaagtgcta aaaagaacat tggtagaaac 1020 agateceetg acatetacaa eeetcaaget ggtteactea aaactgeeaa egateteaae 1080 cttctaatac ttaggtggct tggacctagt gctgaatatg gaaatctcta caggaatgca 1140 ttgtttgtcg ctcactacaa caccaacgca cacagcatca tatatcgatt gaggggacgg 1200 gctcacgtgc aagtcgtgga cagcaacggc aacagagtgt acgacgagga gcttcaagag 1260 ggtcacgtgc ttgtggtgcc acagaacttc gccgtcgctg gaaagtccca gagcgagaac 1320 ttcgaatacg tggcattcaa gacagactca aggcccagca tagccaacct cgccggtgaa 1380 aactccgtca tagataacct gccggaggag gtggttgcaa attcatatgg cctccaaagg 1440 gagcaggcaa ggcagcttaa gaacaacaac cccttcaagt tcttcgttcc accgtctcag 1500 cagteteega gggetgtgge ttaa

<210> 6

<211> 510

<212> PRT

<213> Arachis hypogaea

<400> 6

Ile Ser Phe Arg Gln Gln Pro Glu Glu Asn Ala Cys Gln Phe Gln Arg
1 5 10 15

Leu Asn Ala Gln Arg Pro Asp Asn Arg Ile Glu Ser Glu Gly Gly Tyr
20 25 30

Ile Glu Thr Trp Asn Pro Asn Asn Gln Glu Phe Glu Cys Ala Gly Val
35 40 45

Ala Leu Ser Arg Leu Val Leu Arg Arg Asn Ala Leu Arg Arg Pro Phe

50 55 60

Tyr	Ser	Asn	Ala	Pro	Gln	Glu	Ile	Phe	Ile	Gln	Gln	Gly	Arg	Gly	Tyr
65					70					75					80

- Phe Gly Leu Ile Phe Pro Gly Cys Pro Arg His Tyr Glu Glu Pro His 85 90 95
- Thr Gln Gly Arg Arg Ser Gln Ser Gln Arg Pro Pro Arg Arg Leu Gln
 100 105 110
- Gly Glu Asp Gln Ser Gln Gln Gln Arg Asp Ser His Gln Lys Val His
 115 120 125
- Arg Phe Asp Glu Gly Asp Leu Ile Ala Val Pro Thr Gly Val Ala Phe 130 135 140
- Trp Leu Tyr Asn Asp His Asp Thr Asp Val Val Ala Val Ser Leu Thr
 145 150 155 160
- Asp Thr Asn Asn Asn Asp Asn Gln Leu Asp Gln Phe Pro Arg Arg Phe
 165 170 175
- Asn Leu Ala Gly Asn Thr Glu Gln Glu Phe Leu Arg Tyr Gln Gln Gln 180 185 190
- Ser Arg Gln Ser Arg Arg Ser Leu Pro Tyr Ser Pro Tyr Ser Pro
 195 200 205
- Gln Ser Gln Pro Arg Gln Glu Glu Arg Glu Phe Ser Pro Arg Gly Gln 210 215 220
- His Ser Arg Arg Glu Arg Ala Gly Gln Glu Glu Glu Asn Glu Gly Gly 225 230 235 240
- Asn Ile Phe Ser Gly Phe Thr Pro Glu Phe Leu Glu Gln Ala Phe Gln 245 250 255
- Val Asp Asp Arg Gln Ile Val Gln Asn Leu Arg Gly Glu Thr Glu Ser 260 265 270
- Glu Glu Glu Gly Ala Ile Val Thr Val Arg Gly Gly Leu Arg Ile Leu 275 280 285
- Ser Pro Asp Arg Lys Arg Arg Ala Asp Glu Glu Glu Glu Tyr Asp Glu 290 295 300
- Asp Glu Tyr Glu Tyr Asp Glu Glu Asp Arg Arg Gly Arg Gly Ser

Arg Gly Arg Gly Asn Gly Ile Glu Glu Thr Ile Cys Thr Ala Ser Ala 325 330 335

Lys Lys Asn Ile Gly Arg Asn Arg Ser Pro Asp Ile Tyr Asn Pro Gln 340 345 350

Ala Gly Ser Leu Lys Thr Ala Asn Asp Leu Asn Leu Leu Ile Leu Arg 355 360 365

Trp Leu Gly Pro Ser Ala Glu Tyr Gly Asn Leu Tyr Arg Asn Ala Leu 370 380

Phe Val Ala His Tyr Asn Thr Asn Ala His Ser Ile Ile Tyr Arg Leu 385 390 395 400

Arg Gly Arg Ala His Val Gln Val Val Asp Ser Asn Gly Asn Arg Val
405
410
415

Tyr Asp Glu Glu Leu Gln Glu Gly His Val Leu Val Val Pro Gln Asn 420 425 430

Phe Ala Val Ala Gly Lys Ser Gln Ser Glu Asn Phe Glu Tyr Val Ala 435 440 445

Phe Lys Thr Asp Ser Arg Pro Ser Ile Ala Asn Leu Ala Gly Glu Asn 450 455 460

Ser Val Ile Asp Asn Leu Pro Glu Glu Val Val Ala Asn Ser Tyr Gly
465 470 475 480

Leu Gln Arg Glu Gln Ala Arg Gln Leu Lys Asn Asn Asn Pro Phe Lys
485
490
495

Phe Phe Val Pro Pro Ser Gln Gln Ser Pro Arg Ala Val Ala 500 505 510

<210> 7

<211> 10

<212> PRT

<213> Arachis hypogaea

<400> 7

Ala Lys Ser Ser Pro Tyr Gln Lys Lys Thr 1 5 10

```
<210> 8
<211> 10
<212> PRT
<213> Arachis hypogaea
<400> 8
Gln Glu Pro Asp Asp Leu Lys Gln Lys Ala
<210> 9
<211> 10
<212> PRT
<213> Arachis hypogaea
<400> 9
Leu Glu Tyr Asp Pro Arg Leu Val Tyr Asp
                  5
<210> 10
<211> 10
<212> PRT
<213> Arachis hypogaea
<400> 10
Gly Glu Arg Thr Arg Gly Arg Gln Pro Gly
 1
                  5
                                     10
<210> 11
<211> 10
<212> PRT
<213> Arachis hypogaea
<400> 11
Pro Gly Asp Tyr Asp Asp Asp Arg Arg Gln
                5
<210> 12
<211> 10
<212> PRT
<213> Arachis hypogaea
<400> 12
```

Pro Arg Arg Glu Glu Gly Gly Arg Trp Gly

1 5 10

<210> 13

<211> 10

<212> PRT

<213> Arachis hypogaea

<400> 13

Arg Glu Arg Glu Glu Asp Trp Arg Gln Pro 1 5 10

<210> 14

<211> 10

<212> PRT

<213> Arachis hypogaea

<400> 14

Glu Asp Trp Arg Arg Pro Ser His Gln Gln
1 5 10

<210> 15

<211> 10

<212> PRT

<213> Arachis hypogaea

<400> 15

Gln Pro Arg Lys Ile Arg Pro Glu Gly Arg 1 5 10

<210> 16

<211> 10

<212> PRT

<213> Arachis hypogaea

<400> 16

Thr Pro Gly Gln Phe Glu Asp Phe Phe Pro 1 5 10

<210> 17

<211> 10

<212> PRT

<213> Arachis hypogaea

<400> 17 Ser Tyr Leu Gln Glu Phe Ser Arg Asn Thr 5 10 <210> 18 <211> 10 <212> PRT <213> Arachis hypogaea <400> 18 Phe Asn Ala Glu Phe Asn Glu Ile Arg Arg <210> 19 <211> 10 <212> PRT <213> Arachis hypogaea <400> 19 Glu Gln Glu Glu Arg Gly Gln Arg Arg Trp 5 10 <210> 20 <211> 10 <212> PRT <213> Arachis hypogaea <400> 20 Asp Ile Thr Asn Pro Ile Asn Leu Arg Glu <210> 21 <211> 10 <212> PRT <213> Arachis hypogaea <400> 21 Asn Asn Phe Gly Lys Leu Phe Glu Val Lys 5

<210> 22

<211> 10

<212> PRT

<213> Arachis hypogaea <400> 22 Gly Thr Gly Asn Leu Glu Leu Val Ala Val 5 <210> 23 <211> 10 <212> PRT <213> Arachis hypogaea <400> 23 Arg Arg Tyr Thr Ala Arg Leu Lys Glu Gly 5 10 <210> 24 <211> 10 <212> PRT <213> Arachis hypogaea <400> 24 Glu Leu His Leu Leu Gly Phe Gly Ile Asn 10 <210> 25 <211> 10 <212> PRT <213> Arachis hypogaea <400> 25 His Arg Ile Phe Leu Ala Gly Asp Lys Asp 5 10 <210> 26 <211> 10 <212> PRT <213> Arachis hypogaea <400> 26

Ile Asp Gln Ile Glu Lys Gln Ala Lys Asp

<210> 27

```
<211> 10
<212> PRT
<213> Arachis hypogaea
<400> 27
Lys Asp Leu Ala Phe Pro Gly Ser Gly Glu
                  5
<210> 28
<211> 10
<212> PRT
<213> Arachis hypogaea
<400> 28
Lys Glu Ser His Phe Val Ser Ala Arg Pro
<210> 29
<211> 10
<212> PRT
<213> Arachis hypogaea
<400> 29
Pro Glu Lys Glu Ser Pro Glu Lys Glu Asp
                  5
<210> 30
<211> 10
<212> PRT
<213> Arachis hypogaea
His Ala Ser Ala Arg Gln Gln Trp Glu Leu
             5
                                     10
<210> 31
<211> 10
<212> PRT
<213> Arachis hypogaea
<400> 31
Gln Trp Glu Leu Gln Gly Asp Arg Arg Cys
```

5

1

10

<210> 32 <211> 10 <212> PRT <213> Arachis hypogaea <400> 32 Asp Arg Arg Cys Gln Ser Gln Leu Glu Arg 5 <210> 33 <211> 10 <212> PRT <213> Arachis hypogaea <400> 33 Leu Arg Pro Cys Glu Gln His Leu Met Gln 5 <210> 34 <211> 10 <212> PRT <213> Arachis hypogaea <400> 34 Lys Ile Gln Arg Asp Glu Asp Ser Tyr Glu <210> 35 <211> 10 <212> PRT <213> Arachis hypogaea <400> 35 Tyr Glu Arg Asp Pro Tyr Ser Pro Ser Gln 5 <210> 36 <211> 10 <212> PRT <213> Arachis hypogaea

<400> 36

Ser Gln Asp Pro Tyr Ser Pro Ser Pro Tyr

1 5 10

<210> 37 <211> 10

<212> PRT

<213> Arachis hypogaea

<400> 37

Asp Arg Leu Gln Gly Arg Gln Gln Glu Gln 1 5 10

<210> 38

<211> 10

<212> PRT

<213> Arachis hypogaea

<400> 38

Lys Arg Glu Leu Arg Asn Leu Pro Gln Gln
1 5 10

<210> 39

<211> 10

<212> PRT

<213> Arachis hypogaea

<400> 39

Gln Arg Cys Asp Leu Asp Val Glu Ser Gly
1 5 10

<210> 40

<211> 15

<212> PRT

<213> Arachis hypogaea

<400> 40

Ile Glu Thr Trp Asn Pro Asn Asn Gln Glu Phe Glu Cys Ala Gly
1 5 10 15

<210> 41

<211> 15

<212> PRT

<213> Arachis hypogaea

```
<400> 41
Gly Asn Ile Phe Ser Gly Phe Thr Pro Glu Phe Leu Glu Gln Ala
                  5
                                     10
<210> 42
<211> 15
<212> PRT
<213> Arachis hypogaea
<400> 42
Val Thr Val Arg Gly Gly Leu Arg Ile Leu Ser Pro Asp Arg Lys
                5
                                     10
<210> 43
<211> 15
<212> PRT
<213> Arachis hypogaea
<400> 43
Asp Glu Asp Glu Tyr Glu Tyr Asp Glu Glu Asp Arg Arg Gly
                5
                                     10
<210> 44
<211> 52
<212> PRT
<213> Arachis hypogaea
<400> 44
Thr Asn Gln Arg Ser Pro Pro Gly Glu Arg Thr Arg Gly Arg Gln Pro
                                     10
                 5
Gly Asp Tyr Asp Asp Asp Arg Gln Pro Arg Arg Glu Glu Gly Gly
            20
                                 25
Arg Trp Gly Pro Ala Gly Pro Arg Glu Arg Glu Arg Glu Glu Asp Trp
                            40
Arg Gln Pro Arg
    50
<210> 45
<211> 10
```

<212> PRT

<213> Arachis hypogaea

<400> 45 Thr Asn Gln Arg Ser Pro Pro Gly Glu Arg 5 <210> 46 <211> 10 <212> PRT <213> Arachis hypogaea <400> 46 Gln Arg Ser Pro Pro Gly Glu Arg Thr Arg 5 10 <210> 47 <211> 10 <212> PRT <213> Arachis hypogaea <400> 47 Ser Pro Pro Gly Glu Arg Thr Arg Gly Arg 5 <210> 48 <211> 10 <212> PRT <213> Arachis hypogaea <400> 48 Pro Gly Glu Arg Thr Arg Gly Arg Gln Pro <210> 49 <211> 10 <212> PRT <213> Arachis hypogaea <400> 49 Glu Arg Thr Arg Gly Arg Gln Pro Gly Asp 1 5

<210> 50 <211> 10

<212> PRT <213> Arachis hypogaea <400> 50 Thr Arg Gly Arg Gln Pro Gly Asp Tyr Asp 5 <210> 51 <211> 10 <212> PRT <213> Arachis hypogaea <400> 51 Gly Arg Gln Pro Gly Asp Tyr Asp Asp Asp 5 <210> 52 <211> 10 <212> PRT <213> Arachis hypogaea <400> 52 Gln Pro Gly Asp Tyr Asp Asp Asp Arg Arg 5 10 <210> 53 <211> 10 <212> PRT <213> Arachis hypogaea <400> 53 Gly Asp Tyr Asp Asp Asp Arg Arg Gln Pro 5 <210> 54 <211> 10 <212> PRT <213> Arachis hypogaea

Tyr Asp Asp Asp Arg Gln Pro Arg Arg

5

<400> 54

10

<210> 55 <211> 10 <212> PRT <213> Arachis hypogaea <400> 55 Asp Asp Arg Gln Pro Arg Arg Glu Glu 5 <210> 56 <211> 10 <212> PRT <213> Arachis hypogaea <400> 56 Arg Arg Gln Pro Arg Arg Glu Glu Gly Gly 5 <210> 57 <211> 10 <212> PRT <213> Arachis hypogaea <400> 57 Gln Pro Arg Arg Glu Glu Gly Gly Arg Trp 5 <210> 58 <211> 10 <212> PRT <213> Arachis hypogaea <400> 58 Arg Arg Glu Glu Gly Gly Arg Trp Gly Pro 10 1 5 <210> 59 <211> 10 <212> PRT <213> Arachis hypogaea <400> 59 Glu Glu Gly Gly Arg Trp Gly Pro Ala Gly

<210> 60 <211> 10 <212> PRT <213> Arachis hypogaea <400> 60 Gly Gly Arg Trp Gly Pro Ala Gly Pro Arg <210> 61 <211> 10 <212> PRT <213> Arachis hypogaea <400> 61 Arg Trp Gly Pro Ala Gly Pro Arg Glu Arg 5 <210> 62 <211> 10 <212> PRT <213> Arachis hypogaea <400> 62 Gly Pro Ala Gly Pro Arg Glu Arg Glu Arg 5 <210> 63 <211> 10 <212> PRT <213> Arachis hypogaea <400> 63 Ala Gly Pro Arg Glu Arg Glu Arg Glu Glu 5 10 <210> 64 <211> 10 <212> PRT

<213> Arachis hypogaea

<400> 64

```
Pro Arg Glu Arg Glu Arg Glu Glu Asp Trp
 1
<210> 65
<211> 10
<212> PRT
<213> Arachis hypogaea
<400> 65
Glu Arg Glu Arg Glu Glu Asp Trp Arg Gln
                  5
<210> 66
<211> 10
<212> PRT
<213> Arachis hypogaea
<400> 66
Glu Arg Glu Glu Asp Trp Arg Gln Pro Arg
                                      10
<210> 67
<211> 22
<212> PRT
<213> Arachis hypogaea
<400> 67
Asp Ser Tyr Glu Arg Asp Pro Tyr Ser Pro Ser Gln Asp Pro Tyr Ser
                  5
                                      10
                                                          15
 1
Pro Ser Pro Tyr Asp Arg
             20
<210> 68
<211> 10
<212> PRT
<213> Arachis hypogaea
<400> 68
Asp Ser Tyr Glu Arg Asp Pro Tyr Ser Pro
                 5
```

<210> 69

```
<212> PRT
<213> Arachis hypogaea
<400> 69
Tyr Glu Arg Asp Pro Tyr Ser Pro Ser Gln
                  5
<210> 70
<211> 10
<212> PRT
<213> Arachis hypogaea
<400> 70
Arg Asp Pro Tyr Ser Pro Ser Gln Asp Pro
                  5
<210> 71
<211> 10
<212> PRT
<213> Arachis hypogaea
<400> 71
Pro Tyr Ser Pro Ser Gln Asp Pro Tyr Ser
<210> 72
<211> 10
<212> PRT
<213> Arachis hypogaea
<400> 72
Ser Pro Ser Gln Asp Pro Tyr Ser Pro Ser
                                     10
                  5
<210> 73
<211> 10
<212> PRT
<213> Arachis hypogaea
<400> 73
Ser Gln Asp Pro Tyr Ser Pro Ser Pro Tyr
                  5
```

<211> 10

```
<210> 74
<211> 10
<212> PRT
<213> Arachis hypogaea
<400> 74
Asp Pro Tyr Ser Pro Ser Pro Tyr Asp Arg
                  5
<210> 75
<211> 23
<212> PRT
<213> Arachis hypogaea
<400> 75
Glu Glu Glu Tyr Asp Glu Asp Glu Tyr Glu Tyr Asp Glu Glu Asp Arg
Arg Arg Gly Arg Gly Ser Arg
             20
<210> 76
<211> 15
<212> PRT
<213> Arachis hypogaea
<400> 76
Glu Glu Glu Tyr Asp Glu Asp Glu Tyr Glu Tyr Asp Glu Glu Asp
                                                           15
                                      10
  1
                  5
<210> 77
<211> 15
<212> PRT
<213> Arachis hypogaea
<400> 77
Glu Tyr Asp Glu Asp Glu Tyr Glu Tyr Asp Glu Glu Asp Arg Arg
                  5
<210> 78
```

23

<211> 15 <212> PRT

<213> Arachis hypogaea

<400> 78 Asp Glu Asp Glu Tyr Glu Tyr Asp Glu Glu Asp Arg Arg Gly 10 5 <210> 79 <211> 15 <212> PRT <213> Arachis hypogaea <400> 79 Asp Glu Tyr Glu Tyr Asp Glu Glu Asp Arg Arg Arg Gly Arg Gly 15 5 10 <210> 80 <211> 15 <212> PRT <213> Arachis hypogaea <400> 80 Tyr Glu Tyr Asp Glu Glu Asp Arg Arg Gly Arg Gly Ser Arg 10 5 <210> 81 <211> 15 <212> PRT <213> Arachis hypogaea Tyr Asp Glu Glu Asp Arg Arg Gly Arg Gly Ser Arg Gly Arg

5

10

15